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ABSTRACT

This paper describes two studies involving men and women who participated in online discussions in a Web-based graduate course. The purpose of both studies was to examine the frequency and types of response these students made during the course chats and threaded discussions. The first study took place at the end of the course in a two-week period. Students were divided into two small groups: one group discussed the assigned topic via chat, while the other group discussed the same topic via threaded discussion. The following week, these groups switched discussion formats to discuss a second topic. Results of the first study indicate that both chats and threaded discussion (the primary focus of the original study) were valued and had utility. However, an unanticipated result indicated a variation in the number and type of statements made with one of the small groups versus the other. It was found that the majority-female group made more frequent statements than the majority-male group. This finding was contrary to the review of research in regard to two points: (1) results and discussion that indicate online discussion is an equalizer between men and women and (2) results that indicate females were less involved. Other discussions of students using both online formats at various points within the same course and semester were examined. Results of the second study indicate that there were some differences in the types of statements, but the amount of statements made by both genders on average was equivalent within mixed-gender, large group discussions in the sampled four weeks. The findings of this second study confirmed studies that indicate gender equity in computer-mediated communication. However, the initial study's results are still viable. It is possible that when in same gender groups, the genders use typical communication styles in discussion and when in mixed gender groups, the discussions are equivalent in number of statements for both genders. Additional research is necessary into this issue of gender and online discussion. (Contains 28 references.) (Author/AEF)

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Women and Men in Online Discussion: Are There DifferencesIn Their Communication?

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Abstract

This paper describes two studies involving men and women (n = 13) who participated in online discussions in a web-based graduate course. The purpose of both studies was to examine the frequency and types of responses these students made during the course chats and threaded discussions. The first study was occurred at the end of the course in a two-week period. Students were divided into 2 small groups in which one group discussed the assigned topic via chat while the other group discussed the same topic via threaded discussion. The following week, these groups switched discussion formats to discuss a second topic. Results of the first study indicate that both chats and threaded discussion (the primary focus of the original study) were valued and had utility. However, an unanticipated result indicated a variation in the number and type of statements made with one of the small groups versus the other. It was found that the majority female group made more frequent statements than the majority male group. This finding was contrary to our review of research in regard to 2 points: 1) results and discussion that indicate that online discussion is an equalizer between men and 2) results that indicate that females were less involved. Hence, we examined other discussion of students using both online formats involving at various points within the same course and semester. Results of the second study indicate that there were some differences in the types of statements, but the amount of statements made by both genders on average was equivalent within mixed-gender, large group discussions in the sampled 4 weeks. The findings of this second study confirmed CMC studies that indicate gender equity. However, the initial study's results are still viable. Perhaps when in same gender groups, the genders use typical communication styles in discussion and when in mixed gender groups, the discussions are equivalent in number of statements for both genders. Additional research is necessary into this issue of gender and online discussion.

Background of the Studies

Web-based and web-blended (enhanced) courses require active and interactive participation with all participants (instructor and students) and with instructional materials posted or linked to a web site. Active participation is usually conducted by locating or providing information and posting this information to a designated web site, such as shared documents, external links, and online biography of student and staff information. Interactivity requires the interchange of ideas with all participants. This interchange of ideas occurs mainly through online chats or threaded discussions. (Davidson-Shivers, Muilenburg, & Tanner, (in press), 2000; Davidson-Shivers, Morrison, & Sriwongkol, 2001; Davidson-Shivers & Rasmussen, 1998, 1999).

The computer-mediated communication (CMC) literature documents the dynamics of online discussions by various forms of communication patterns, processes, and language styles (Lawley, 1993; Adkins & Brasher, 1995; Sherry, 1999; Hara, Bonk, & Angel, 1999.) Lawley's article discusses communication and computers in terms of gender as a social construct and the political effects of technology, such as the dehumanizing aspects of technology and viewing the user as shaping the process and environment, especially virtual environments. Adkins and Brasher's study of CM groups suggests that language style of powerful and powerless speech affect interpersonal perception—being that the powerful was perceived as being more task-attractive and competent. Another finding indicated those members perceived of higher status were given more opportunity to talk. Machanic (1998) discussed the need to have institutions and instructors establish procedures and safeguards to prevent harassment and nastiness occurring in online discussions and facilitate a sense of safe community.

Other studies focused on gender differences in communication patterns in online discussions (Vrooman, 2001; Proost, Elen, & Lowyck, 1997; Wojahn; 1994; McConnell, 1997; Ross, 1996; Herring, 1993; Allen, 1995). Herring also claims that the belief that CMC is inherently more democratic than face-to-face communications may be overly optimistic with respect to gender. In her ethnographic study of academic professionals, she found that women did contribute less and with shorter statements than did the males. Ross also found that females participated less than males in small group discussions and discussed their families whereas men did not contribute to messages referring to family. While Mahoney and Knupfer (1997) suggest that research on women and language reveal that women can experience linguistic discrimination within CMC and that cyberspace is not a gender-neutral space, a recent article by Vrooman argues that online environments can produce a more equitable area for communication from both genders.

In addition, Allen's case study of men and women using the electronic mail system found no difference in number of messages sent an length of time using email; however, females rated the email more highly in various categories and reported learning from co-workers than men. In addition, Allen suggested that females tend to be socialized by supportive and nurturing. Proost, Elen, and Lowyck in their survey found that it was experience rather than gender being responsible for different perceptions of CMC environments. Wojhan compared the adult communication patterns by gender using a bulletin-board communication format; she found that the length of communication patterns of men and women was very similar. McConnell, when comparing patterns of men and women in mixed gender groups, found that men tended to talk more and longest in

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computer conferencing, but that women may be less disadvantaged in conversations in online than in face-to-face. Hence, there was some discrepancy in terms of contributions within CMC environments.

Based on conflicting information within the literature, the results of two studies are being examined in terms of gender equity and possible influencing factors. The purpose of the paper is to describe the methods employed in the two studies, discuss the results of each study, and identify potential influencing factors that may affect (or determine) gender equity in online discussions and that call for further research.

Methodology

Participants

Participants in the study were graduate students (n = 13) in a required course for their degree programs of study from a southeastern regional university in the USA. Approximately two-thirds of the students were female. Based on the survey results, the majority of students reported that they had computer experience with some having less experience with the Internet and WWW. Participation in the discussions was a course requirement. Confidentiality of information was maintained by having surveys collected and coded by someone other than the instructor and the analysis of the discussions occurred after final grades were posted.

Course content, organization, and requirements

The course was an introductory course on trends and issues in instructional design. The course was organized by weekly topics with assignments and questions being posted to its website. Two or three questions were given with directions on how to post (either chat or threaded discussion) answers and replies. Students had a week to respond to any listserv question(s) and were also required to reply at least twice to other students' responses during the week. Typically one additional question was scheduled for an hour and a half chat during the week. Chats were large group (whole class) in which most students were able to attend. Students were also assigned particular readings as preparation for discussing the weekly topic. They were also encouraged to draw on their own experiences, knowledge and skills. Both threaded discussion and chat could be copied and all of the chats were distributed to all members of the class. After the fifth week of the term, students were assigned as discussion leaders to facilitate the weekly discussions in both chats and threaded discussions with guidance from the instructor. The instructor participated directly in the online chats; however, less so when another student was the discussion leader. With the threaded discussions, she added her comments to a summary at the end of the week rather than commenting during the week.

Data Gathering Procedures

The following procedures occurred for gathering the data:

1. Obtaining Transcripts of chats and threaded discussions.

Study 1: Transcripts of the small group discussions for chat and threaded discussion for week 13 and 14 were coded using a coding scheme developed by the Davidson-Shivers et al (1999) based on the work of Piburn and Middleton (1998) and Williams and Meredith (1996). See Table 1 for the coding scheme.

Study 2: Transcripts of the discussions for 4 different weeks (weeks 5, 7, 10 & 15) were then coded using same coding scheme. There were two threaded discussion questions and one chat for each week; all of these discussions were whole class rather than students being divided into small groups.

2. Training of researchers.

The researchers were trained to use the coding scheme and then coded each discussion transcript independently. The transcripts were coded by each completed statement/thought made rather than using a line-by-line method. The coding and analyses of the discussions did not occur until after the final course grades were posted. Complete sentences, incomplete sentences, and short phrases were considered as a statement if a new or different thought was presented within them. Incomplete sentences or short phrases were often used within the chat due to the speed and interactive nature of this format.

3. Handling discrepancies in coding.

Discrepancies encountered in the coding were resolved by review and discussion of the statement and the researchers coming to consensus.

4. Surveys were analyzed for demographic data, computer and web experience, and attitudes toward web-based instruction.

Table 1. Types of Discussion Participation Coding Scheme

SUBSTANTIVE: messages that relate to the discussion content or topic.

Code
1. **Structuring** – Statements which initiate a discussion and focus attention on the topic of the discussion. These statements are often made by the discussion leader or instructor (i.e. "Today we are going to discuss . . ." or "This week's discussion will focus on . . .").
2. **Soliciting**—Any content-related question, command or request which attempts to solicit a response or draw attention to something (i.e. "What do you think the author meant by . . .?" or "Give us some support for that assertion.").
3. **Responding**—A statement in direct response to a solicitation (i.e. answers to questions, commands, or requests). Generally these are the first response to a question by a given individual.
4. **Reacting**—A reaction to either a structuring statement, to another person's comments, but not a direct response to the question. (i.e. "Your earlier statement got me to thinking about . . ." or "I agree/disagree with Bob because . . .").

NON-SUBSTANTIVE: messages that do not relate to the discussion topic or content.

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5. **Procedural**—Scheduling information, announcements, logistics, listserv membership procedures, etc.
6. **Technical**—Computer-related questions, content, suggestions of how to do something, not related to the topic directly.
7. **Chatting**—Personal statements, jokes, introductions, greetings, etc.
8. **Uncodable**—Statements that consist of too little information or unreadable to be coded meaningfully.
9. **Supportive**—Statements that although similar to chatting, there is an underlying positive reinforcement to the comment! (i.e. "Good idea!" or "Excellent work!"). *Note*: This type was added when the researchers met for consensus of their coding of the transcripts.

Source: Davidson-Shivers, Muilenburg, & Tanner, 1999. Adapted from Piburn & Middleton (1998) and Williams & Meredith (1996).

Results

Study 1

In the initial study, students were randomly assigned to either a small group chat or threaded discussion during one week of the course (week 13). In the second week (week 14), the same groups switched discussion modes on another topic question. Using qualitative methods and a coding scheme, the researchers coded the transcribed discussions to find out whether of the students' participation were substantive (directly related to the topic) or non-substantive (not directly related to the content) in nature. Results indicated that overall students' discussions included all 9 types of substantive and non-substantive comments. However, it appeared that there was a remarkable difference in terms of types and amounts of responses between these two groups.

The majority female group had greater numbers of responses and reactions (substantive categories) in both chat and threaded discussion than did the majority male group. In addition, the majority female group made more chatting and supportive comments (nonsubstantive categories) than did the males during the two-week period. When reviewing these patterns in terms of face-to-face situations, the findings are not that surprising. Tannen (1990) suggests that females in face-to-face conversations with each other, tend to use more words and elaborations as well as supportive comments than do males in similar situations. However, the results are in sharp contrast to findings in computer-mediated communication literature, which suggests that communication patterns of men and women in online discussions are similar (Wojhan, 1997; McConnell, 1997).

Study 2

In this second study, the focus was to analyze the interactions of these same students in chats and threaded discussions drawn from 4 different weeks (week 5, 7, 10 & 15). These discussions involved a mixed gender group. Results were mixed in terms of any differences in which gender had greater amounts of these two main categories over the four weeks. In terms, of the non-substantive categories, the females tended to have made slightly greater numbers of chatting and supportive comments than males. When comparing male and female discussion leaders the female showed a greater amount in those same two non-substantive categories than did the male leader. Both males and females showed the greatest amounts of messages in the responding and reacting (2 of the substantive categories) and were fairly equal in amount overall. It appears then that differences in male and female discussions are diminished when looking at substantive remarks in online discussions using a mixed gender group. The results of this second study supports the idea that CMC tends to be an equalizer among men and women when in mixed gender groups. However, the findings of the second study do not necessarily negate the results of the initial study. Perhaps when in same gender groups, men and women tend to revert to their natural patterns of conversation.

Discussion of Results

As suggested in the review of literature, perhaps there is opportunity for women to create a new model for online discussions and that females are less disadvantaged in online discussions than in face-to-face meetings after all (Wojahn; McConnell, Vrooman). And based on the initial study's findings, perhaps women can make a strong contribution in online discussion. However, there remains the question of why the findings in both studies may have occurred.

Pure speculation may indicate that when groups are same gender rather than mixed gender, communication may revert back to typical gender-based communication (Tannen, 1990). Tannen suggests that men use a parallel form of communication with each other which is when each communicate his own ideas without necessarily commenting on the other's; it tends to be a side-by-side type of pattern without much discussion or interrelationship between the males' comments.. Women tend to have a relational type of communication, in that one female states something that in turn is commented on by the other female and in a sense they take turns sharing and supporting ideas between themselves. Women often use more words and talk more than men; estimated at 25,000 per day compared to a man's 15,000 per day (source unknown).

The increase in amount of supportive statements by the female students may be indicative of a tendency for this gender to provide supportive comments to each other (Tannen, 1990) or acknowledge points made by each other (Wojahn, 1994). McConnell (1997) also suggests that men tend to support conversations at the end whereas women tend support conversations throughout the dialogue. These findings of the initial study, and to some degree the second finding, are similar to face-to-face conversations within same gender groups (Tannen, 1990; Wojahn, 1994; McConnell, 1997) as well as in terms of supportive comments being a female characteristic, whether biological or socially constructed (Herring; Lawley; Mahoney & Knupfer).

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Students having had face-to-face communication prior to going online may also have evoked a feeling of community and allowed for initial impressions and perceptions of individuals to be made (Adkins & Brasher; Herring; Lawley). With such impressions, the second study may indicate that the powerful may not have been the typical perception of gender-based power, but that of one who displays confidence and higher status in the group discussions. In addition, the face-to-face may have facilitated safe feelings when going online (Machniac, 1998). Ross states that when students with high CMC skills may have been sympathetic to those less skilled students who encountered higher rates of technical problems. This phenomenon appeared to occur in the course as well, again promoting a sense of community and support.

The instructor's teaching style and manner helped established both in the oncampus class and online may have had an effect on sense of community. Procedures and safeguards may have been in place so that students felt safe as Machniac suggests. There is a tendency for males to do more flaming than females(Vrooman; Ross); yet, little to none of that occurred within the course.

Further Research Needed

This set of study yielded more questions than it answered and indicates that further exploration of communication patterns and gender in online dialogue is needed. First, the methodology of the various studies shared in this paper vary greatly, simple replication of the various studies will enhance the discussion on the issue of gender equity and online discussion. The type of group—mixed- or same- gender—may make a difference in the types and amounts of communications between and within gender. Investigations of the discussion patterns with use of whole class and small groups need to occur as well.

In addition, the effect of instructor presence, gender, and teaching style may make a difference on the gender equity in discussions with participating students. Such factors may relate to power of speech, perceptions of speaker, and language style as discussed by Herring and other scholars in the CMC literature. All of these factors may affect the interactions of students in online discussions and ultimately, the success of web-based instruction. It is an issue worthy of further examination.

Finally, examination of communication patterns of children and adolescents by gender as well as course content also needs to be considered. The topic of the course as well as age of the participants could add a richness of information to the discussion in terms of gender and online discussions.

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